

SPECIFICATION AMENDMENTS:

Please replace the paragraph at lines 3 - 10 on page 2 with the following:

Because of their ability to simulate the apparently oscillatory nature of brain neurons, oscillatory neural network computers are among the more promising types of neural network computers. Simply stated, ~~the elements of an oscillatory neural network computer consist of~~ includes oscillators ~~rather than amplifiers or switches~~. Oscillators are mechanical, chemical or electronic devices that are described by an oscillatory signal (periodic, quasi-periodic, almost periodic function, etc.) Usually the output is a scalar function of the form $V(\omega t + \phi)$ where V is a fixed wave form (sinusoid, saw-tooth, or square wave), ω is the frequency of oscillation, and ϕ is the phase deviation (lag or lead).

SMC 5/11/2007 Please replace the paragraph at lines ¹¹⁶15 - 30 on page 5 with the following:

FIG. 2 schematically illustrates an embodiment of a weighting circuit ($C_{1,1}$, $C_{1,2}$, ..., $C_{N,N}$) in accordance with the present invention. In this embodiment, weighting circuits $C_{1,1}$, $C_{1,2}$, ..., $C_{N,N}$ comprise a linear amplifier 23 having an input terminal connected to a respective output terminal OUT_1 , OUT_2 , ..., OUT_{N-1} , OUT_N . An output terminal of linear amplifier 23 is connected to an input terminal of phase shift circuit 24. An output terminal of phase shift circuit 24 is connected to a corresponding adder circuit 31. The output signal appearing on the output terminal of phase shift circuit 24 is ~~given by~~:

$$[[V(\theta) =]] S_{kj} * V(\theta + \psi_{kj}) \quad (1)$$

where

S_{kj} is the connection strength (gain) of weighting circuit C_{kj} as provided by its linear amplifier 23; and

ψ_{kj} is the phase shift introduced by phase shift circuit 24 of the weighting circuit.